AMENDMENT TO THE SPECIFICATION

On page 1 of the specification, please insert the following heading and paragraph before the heading Field of the Invention.

Cross-Reference to Related Application

This application claims the benefit of U.S. Provisional Patent Application Serial No. 60/529,351 filed December 12, 2003, the disclosure of which is incorporated herein by reference.

Please amend paragraphs [0041], [0042] and [0043] of the specification as follows:

[0041] To enter the communication/calibration mode, environmental cap 300 is first removed from connection with sensor 200. Subsequently, calibration cap 100 is placed in operative connection with sensor 200, so that switches 220a and 220b, which are in operative connection with printed circuit board 290, are activated, thereby placing sensor 200 in the calibration mode. Activation of switches 220a and 220b can, for example, cause printed circuit board 290 to transmit a signal to microprocessor 232 on printed circuit board 234 to cause sensor 200 to enter into the calibration mode. Alternatively, activation of switches 220a and 220b can, for example, cause blockage or interruption of the energy emanating from infrared energy source 230 in a predetermined manner (distinguishable from a failure of infrared energy source 230) such that the detectors of PCB [[250]] 234 recognize entry of the calibration mode. In the calibration mode, infrared energy source 230 operates to calibrate sensor 200 as well as to communicate information regarding the calibration of sensor 200 through a transmissive window 250 (see Figure 3B).

[0042] Activation of the calibration mode can, for example, cause microprocessor 232 to first modulate infrared energy source 230 in a manner to communicate that the calibration mode has been recognized/activated. For example, light from infrared energy

source 230 can be pulsed significantly faster or significantly slower than during the sensing mode to indicate entry of the calibration mode. Similarly, other information can be transmitted by, for example, varying the pulse/duration of infrared energy source 230. Infrared energy source 230 can also, for example, be modulated/pulsed to transmit information in a digital format. Infrared energy source 230 can emit light in the visible spectrum so that a user can directly visualize the signal through window [[260]] 250. Alternatively, as illustrated in the embodiment of Figures 1A through 5, calibrator cap 100 can include a detector 140 that is placed in operative connection with volume 240 as illustrated, for example, in Figure 3B. Detector 140 is suitable to detect energy transmitted from infrared energy source 230 through window 260 and impinging upon detector 140. In the illustrated embodiment, detector 140 is in operative communication with a display 150 via a microprocessor 160. Power can, for example, be supplied to detector 140, display 150 and microprocessor 160 via a battery 170. Each of detector 140, display 150, microprocessor 160 and battery 170 can, for example, be positioned upon [[an]] a printed circuit board 180. Printed circuit board 180 is seated in a seating formed by seating sections 190a and 190b of housing sections 110a and 110b, respectively.

[0043] In the case of use in environments in which combustible gases may be present, calibration cap 100, including printed circuit board 180 and all components thereof, are preferably intrinsically safe as set forth in the UL913 Intrinsic Safety standard of Underwriters Laboratories Inc. Although manufacturing calibration cap 100 to be intrinsically safe adds manufacturing costs, a single calibration cap 100 of the present invention can be used with any number of gas sensors 200. Moreover, the calibration system of the present invention eliminates the need for explosion-proof monitoring units at the sensor location as well as explosion proof or ~~intrinsically save~~ intrinsically safe "intelligent" calibrators commonly used in connection with such monitoring units.